

*REMARKS**The Office Action*

The Advisory Action states that applicants' argument filed on February 16, 2007 are persuasive with respect to the anticipation rejection, and accordingly, the anticipation rejection has been withdrawn. However, the Advisory Action continues to maintain the obviousness rejections. Thus, (1) claims 1-2, 9-12, 14-15, 19, 21-28, and 31-37 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Kunita et al. (US 2001/0009129) in view of Kinsho et al. (USP 5,837,785); (2) claims 16 and 17 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Kunita et al. and Kinsho et al. and further in view of AAPA; and (3) claims 7, 8, 13, 29, and 30 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Kunita et al. and Kinsho et al., and further in view of Umeda et al.

Discussion of Rejections

Applicants respectfully submit that the rejections are erroneous. To establish an obviousness rejection, under the *Graham* inquiry, the Office must correctly establish the scope and content of the prior art references. This requires a determination of whether the cited references constitute analogous art. Applicants respectfully submit that the Office has failed to carry out a proper determination of analogous art. In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned. *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem. *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-1061 (Fed. Cir. 1992). See also, *State Contracting & Engineering Corp. v. Condotte America, Inc.*, 346 F.3d 1057 (Fed. Cir. 2003) ("the purposes of both the invention and the prior art are important in determining whether the reference is reasonably pertinent to the problem the invention attempts to solve"). Applicants respectfully submit that reference Kinsho et al. does not constitute analogous art, as discussed below.

The invention in *Clay* related to a process for storing refined liquid hydrocarbon product in a storage tank having a dead volume between the tank bottom and its outlet ports. The appellant appealed the Board's decision affirming the examiner's obviousness rejection of this process based on a combination of references, which appellant charged involved a reference in a nonanalogous art field. The court determined that Clay's field of endeavor concerned the storage of refined liquid hydrocarbons, whereas the field of endeavor of the reference in question dealt with extracting crude petroleum. The court also determined that this reference did not reasonably pertain to the *particular* problem facing *Clay*. The reference addressed the problem of recovering oil from rock. In contrast, Clay's invention sought to prevent the loss of stored product to tank dead volume while preventing contamination of such product. Finding that the reference was nonanalogous art, the Federal Circuit reversed the Board's decision of obviousness.

First of all, Kinsho et al. is classified mainly in class/subclass 525/527. Class 525 is related to synthetic resins and natural rubbers. Subclass 527 corresponds to epoxy resin having a halogen atom. Kinsho et al. envisages the use of epoxy resins in coating, adhesion, civil engineering and building industries (col. 1, lines 15-17). The present invention is classified in class/subclass 101/453, which corresponds to printing/lithographic, respectively. Clearly, the presently claimed invention and Kinsho et al. do not belong in the same class/subclass. The presently claimed invention has nothing to do with civil engineering or building industries. The two inventions are as unrelated as apples and oranges.

Moreover, those of ordinary skill in the art of designing lithographic printing plate materials would have no incentive to look at epoxy resins having a halogen atom. Kinsho et al. relates to "an epoxy curing agent and a one-component (type) epoxy resin composition containing the same" (col. 1, lines 6-11). This is a completely different application wherein "an epoxy curing agent comprising a heterocyclic-containing compound having a backbone chain selected from a broad list of polymers" is disclosed (see col. 1, lines 49-55). There would be no desire of incentive for someone solving a problem in lithographic printing plate industry to look into art relating to civil engineering or building industries, for example. Just as the Federal Circuit required in *Clay*, the inquiry should focus on the particular problem facing the inventor. Here, if such inquiry is made properly, Kinsho et al. should not be applied as a reference, said reference coming from a non-analogous art.

Furthermore, to establish a *prima facie* case for obviousness, the Office must satisfy *three* requirements: (1) the prior art reference or combination of references must teach or suggest *all the limitations* of the claims. See *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970) (“All words in a claim must be considered in judging the patentability of that claim against the prior art.”); (2) the prior art relied upon must contain some suggestion or incentive, coupled with knowledge generally available in the art at the time of the invention, that would have motivated those of ordinary skill in the art to modify a reference or combine the references. See, *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1385, 58 USPQ2d 1286, 1293 (Fed. Cir. 2001) (“in holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in a way that would produce the claimed invention.”); and (3) the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. In other words, hindsight analysis is not allowed. See *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1209, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991) (“While the idea of using a monkey gene to probe for a homologous human gene may have been obvious to try, many pitfalls existed that would have eliminated a reasonable expectation of successfully obtaining the EPO gene. Hindsight is not a justifiable basis on which to find that ultimate achievement of a long sought and difficult scientific goal was obvious.”). Applicants respectfully submit that the Office failed to make a *prima facie* case for obviousness, as discussed below.

The skilled person, having the knowledge of Kunita et al., is looking for “an infrared-sensitive recording layer, structured by a heat-insulating material having a low thermal conductivity, and that is made hydrophilic by being treated with an alkali or a silicate in an alkali developing solution after exposure” (see [0023] and also [0017] in the Summary of invention on page 2 of Kunita et al.). The skilled person would not be drawn to “an epoxy curing agent or an epoxy resin of Kinsho” to apply in a planographic (or lithographic) printing plate of Kunita et al. because there is no hint given by Kunita et al. to use epoxy resins in the preparation of a printing plate. Kunita et al. is only interested in the modification of the polymers listed in [0197] on page 36, but there is no hint in Kunita et al. to modify other polymers for use in a printing plate. So, there is no reason for the skilled person to select a document related to another field of application and to select therein a

specific modified polymer, namely the polymer of formula (9), without any suggestion by Kunita et al. (which does not suggest a modified novolac).

If the skilled person should do this, then he will not come to the present invention because in the general formula (9) of Kinsho et al., the heterocyclic group is chemically bonded on the *oxygen* atom of the hydroxyl group of the phenolic monomeric unit. This is excluded in the present invention because, due to substituting of these hydroxyl groups, the alkaline solubility will be reduced (see description of present invention on page 4 lines 13-22) and this should be avoided.

If the skilled person would modify a novolac, he, like Kinsho et al., would also choose this hydroxyl group for this modification reaction rather than a substitution on a carbon atom of the phenyl group of the phenolic monomeric unit because the hydroxyl group is more reactive and therefore easier and better suited for modification.

Furthermore, even if Kunita et al. and Kinsho et al. are combined, there is no reasonable expectation of success in arriving at the claimed invention. For instance, the number of permutations and combinations that are possible by combining the two references is enormous. For example, the X groups in Kinsho et al. are ether, carbonate, ester, imino, amide, urethane, urea, and sulfide linkages are mentioned. Combining these linkages with all the positions available for bonding the heterocyclic group, there could be endless number of possibilities. There is no level of predictability that these groups would bind to the carbon atom of the phenyl ring and provide the claimed invention. The cited references do not provide a pointer. The Office is reading specifically a sulfide linker because the claimed invention recites this group. This is an extreme example of hindsight reconstruction. This is expressly forbidden by the law. Furthermore, there is no teaching of linking the heterocyclic group to the carbon atom. The Office Action is based on leaps of faith. This is erroneous.

Applicants also incorporate by reference the reply filed previously. The Office has failed to show that the cited references suggest to those of ordinary skill in the art the presently claimed invention where the group $-S-(L)_k-Q$ is covalently bound on *a carbon atom of the phenyl group of the phenolic monomeric unit*. The Office Action admits that "Kunita fails to disclose that the polymer comprises a phenolic monomeric unit wherein the phenyl group of the phenolic monomeric unit is substituted by the specified group [i.e. the group $-S-$

(L)_k-Q] and that wherein S is covalently bound to a carbon atom of the phenyl group.”

(Response to Arguments in Office Action, page 15 lines 2-3).

The Office argued that the attachment of a heterocyclic group to the main chain or the side chain of the polymer by an appropriate linking chain, including S and thioethers would be obvious. However, this argument fails to make a *prima facie* case for obviousness of the claimed invention which includes the claim element that the substituting group -S-(L)_k-Q is covalently bound to *a carbon atom* of the phenyl group.

There are different positions in a novolac resin to bind this substituting group but in the present invention only *on a carbon atom of the phenyl group of the phenolic monomeric unit is selected*. This position of this substituting group is neither disclosed nor suggested in Kunita et al., either alone or in combination with Kinsho et al.

In the presently claimed invention, the position of the substituting group on a carbon atom of the phenyl group of the phenolic monomeric unit is a very important feature as indicated on page 4 lines 13-22 of the present invention. The prior art teaches substitution on the hydroxyl groups, i.e., through the oxygen atoms. This leads to a decrease in the number of free hydroxyl groups on the polymer and thereby reduces the solubility of the coating in the alkaline developer. In contrast, the modification reaction proposed in the present invention enables to increase the chemical resistance of the coating without substantially reducing the developability of the coating.

There is no suggestion in the cited references to motivate those of ordinary skill in the art to make the claimed modification (i.e., substituting on the carbon rather than on the oxygen). Any motivation should only come from the blinding glare of extreme hindsight which is totally impermissible under the law. Applicants respectfully submit that if the Office continues to reject the claims, such a rejection would be based on an unmistakable case of hindsight reconstruction and a strained effort to arrive at the claimed invention by picking and choosing the required components from the prior art using the presently claimed invention as a roadmap and then adding some of its own imagination. It is well established that such hindsight reconstruction is impermissible. Using the applicants' disclosure as a blueprint to reconstruct the claimed invention from isolated pieces of the prior art contravenes the statutory mandate of Section 103 which requires judging obviousness at the

point in time when the invention was made. See *Grain Processing Corp. v. American Maize-Prods. Co.*, 840 F.2d 902, 907, 5 USPQ2d 1788, 1792 (Fed. Cir. 1988).

In view of the foregoing, the obviousness rejections are erroneous and should be withdrawn. Further, as discussed, Umeda et al. fails to disclose or suggest polymers. Accordingly, applicants respectfully submit that all obviousness rejections are erroneous and should be removed.

Conclusion

A favorable decision is solicited. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



Xavier Pillai, Ph.D., Reg. No. 39,799
LEYDIG, VOIT & MAYER, LTD.
Two Prudential Plaza, Suite 4900
180 North Stetson Avenue
Chicago, Illinois 60601-6731
(312) 616-5600 (telephone)
(312) 616-5700 (facsimile)

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